

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1-8 (Cancelled)

Claim 9 (Currently Amended): A sound detecting mechanism comprising a pair of electrodes forming a capacitor on a substrate in which one of the electrodes is a back electrode forming perforations therein corresponding to acoustic holes and the other of the electrodes is a diaphragm, wherein a silicon nitride film is provided ~~on between~~ a side adjacent a base of the substrate ~~with respect to and~~ a membrane acting as the diaphragm formed on the substrate.

Claim 10 (Currently Amended): The sound detecting mechanism of claim 9, wherein the substrate includes a support substrate having a monocrystal silicon substrate acting as the base thereof, wherein ~~an SOI~~ a Silicon on Insulator (SOI) wafer having the silicon nitride film held between an active layer and a built-in oxide film layer is used as the support substrate whereby the active layer forms the diaphragm.

Claim 11 (Currently Amended): The sound detecting mechanism of claim 9, wherein the substrate includes a support substrate having a monocrystal silicon substrate acting as the base thereof, wherein ~~an SOI~~ a Silicon on Insulator (SOI) wafer having the silicon nitride film held between a built-in oxide film layer and the base is used as the support substrate.

Claim 12 (Previously Presented): The sound detecting mechanism of claim 9, wherein the substrate includes a support substrate having a monocrystal silicon substrate, wherein a silicon oxide film is formed on the support substrate, the silicon nitride film is formed on the silicon oxide film, and a silicon film is further formed on the silicon nitride film.

Claim 13 (Previously Presented): The sound detecting mechanism of claim 9, wherein the substrate includes a support substrate having a monocrystal silicon substrate acting as the base thereof, wherein a laminated layer consisting of a silicon oxide film and the silicon nitride film is formed between the membrane acting as the diaphragm and the support substrate, wherein the thickness of the silicon nitride film is selected within a range of $0.1\mu\text{m}$ through $0.6\mu\text{m}$, and wherein a film thickness ratio, (silicon oxide film)/(silicon nitride film)=R, is determined as $0 < R \leq 4$.

Claim 14 (Currently Amended): The sound detecting mechanism of claim 10, wherein a silicon substrate of (100) orientation is used as the monocrystal silicon substrate.

Claim 15 (Cancelled)

Claim 16 (Withdrawn): A method of manufacturing a sound detecting mechanism comprising a pair of electrodes forming a capacitor on a monocrystal silicon substrate in which one of the electrodes is a back electrode forming perforations therein corresponding to acoustic holes and the other of the electrodes is a diaphragm, the method comprising the steps of:

- a) forming a silicon oxide film on a top surface of the monocrystal silicon substrate;
- b) forming a silicon nitride film on the silicon oxide film;
- c) forming a polycrystal silicon film acting as the diaphragm on the silicon nitride film;
- d) forming a silicon oxide film acting as a sacrificial layer on the polycrystal silicon film;
- e) forming a polycrystal silicon film acting as the back electrode on the silicon oxide film;
- f) forming a pattern of the polycrystal silicon film acting as the back electrode in a desired shape by photolithographic technique;

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- g) removing an area extending from the back side of the monocrystal silicon substrate to a lower portion of the diaphragm by etching;
- h) removing the silicon oxide film and the silicon nitride film present in the lower portion of the diaphragm by hydrofluoric acid; and
- i) removing the silicon oxide film acting as the sacrificial layer.

Claim 17 (Previously Presented): The sound detecting mechanism of claim 11, wherein a silicon substrate of orientation is used as the monocrystal silicon substrate.

Claim 18 (Previously Presented): The sound detecting mechanism of claim 12, wherein a silicon substrate of orientation is used as the monocrystal silicon substrate.

Claim 19 (Previously Presented): The sound detecting mechanism of claim 13, wherein a silicon substrate of orientation is used as the monocrystal silicon substrate.